

0 **PERATOR'S GUIDE**

D-Series Clamps

***Sideshifting, Non-Sideshifting,
Revolving, Turnafork,[™]
Turnaload,[™] Bulk Box Handler,
Marble Handler, Tipping***

Manual No. 672944-R9

**cascade[®]
corporation**

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WARNING: Rated capacity of the truck/attachment combination is a responsibility of the original truck manufacturer and may be less than shown on the attachment nameplate. Consult the truck nameplate.

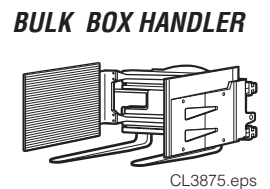
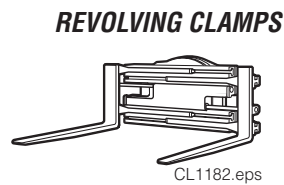
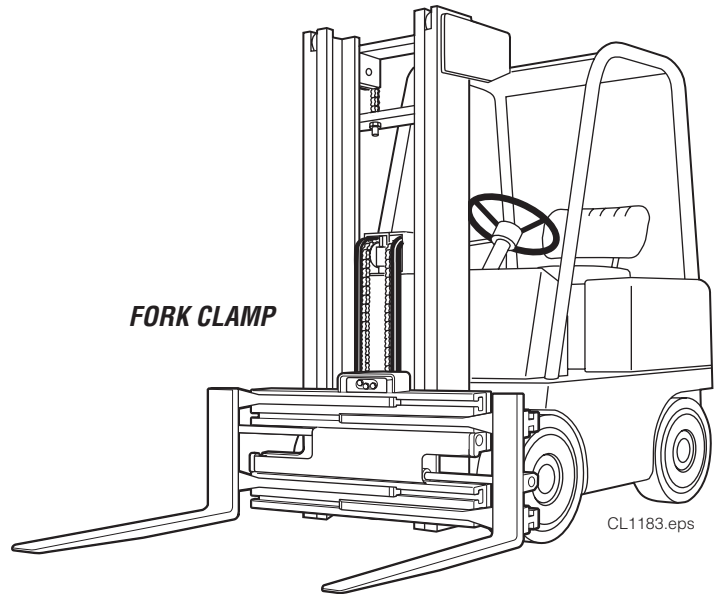
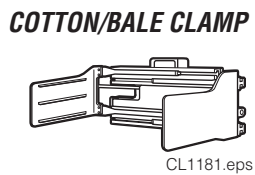
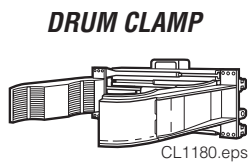
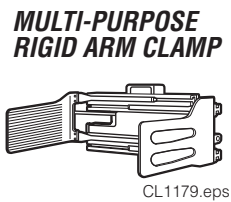
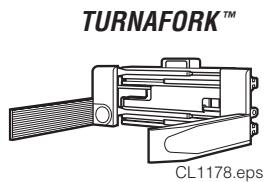
WARNING: Do not operate this attachment unless you are a trained and authorized lift truck driver.

CAUTION: This guide shows load handling procedures for most products. Ask your company or organization about any special procedures for the loads you may be handling.

Cascade Clamp attachments are available in a wide variety of types designed to handle a wide variety of loads.

About this Guide – This guide is prepared to simplify your understanding about efficient and safe attachment use and operation. Please read this guide thoroughly before operating the attachment. Be sure you know and understand all operating procedures and safety precautions. If you have any questions, or don't understand a procedure, ask your supervisor.

Emphasize Safety! Most accidents are caused by operator carelessness or misjudgement. You must watch for poorly maintained equipment and hazardous situations and correct them.



SAFETY RULES

Industrial Lift Trucks

No riders



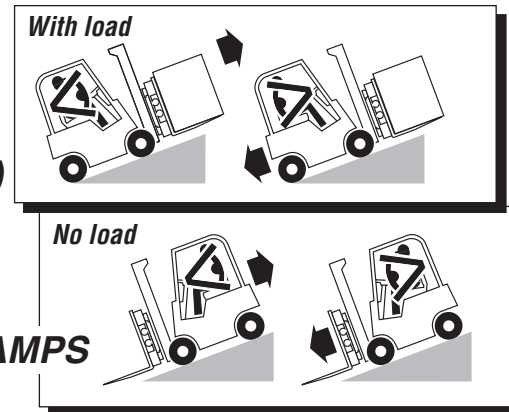
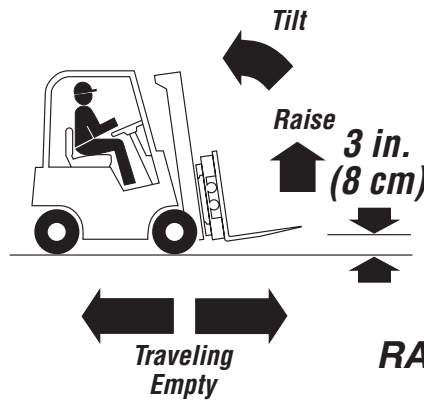
No reaching through mast



No standing under load

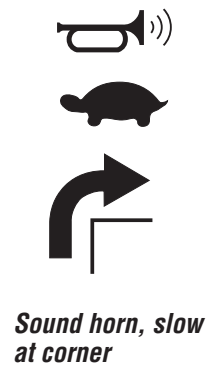
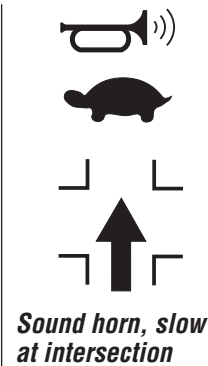
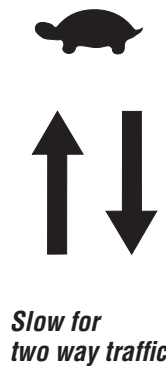


CL1209.eps



CL1210.eps

TRAFFIC

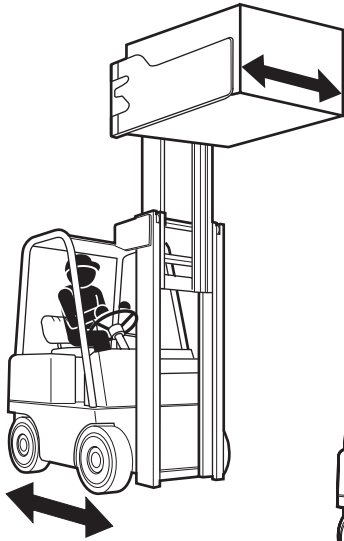




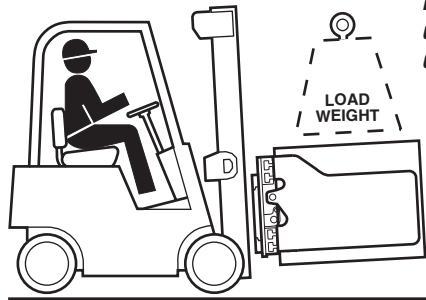
SAFETY RULES

Handling Loads: Loads must be secure prior to lifting and transporting.

Limit sideshifting with raised load.



Limit truck movement with raised load.



Load weight must not exceed combined truck/attachment capacity (see truck nameplate).

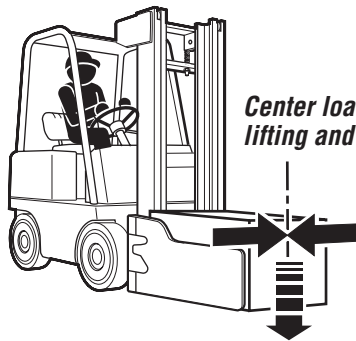
Prior to lift or travel, verify load is stable and safely arranged. Refer to WARNING below.

Backrest



CL1837.eps

Center load prior to lifting and traveling.



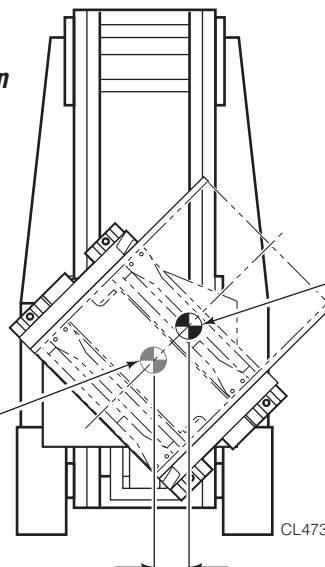
Check for slipping loads. Refer to Load Troubleshooting Section.



WARNING: Unclamped loads on top must be stable and safely arranged prior to lifting and traveling. Backrest required where possibility exists for load to fall rearward (See OSHA 1910.178 and ANSI B56.1, Page 14).

Position the load center of gravity as close as possible to the center of rotation to minimize lateral offset.

Center of Rotation



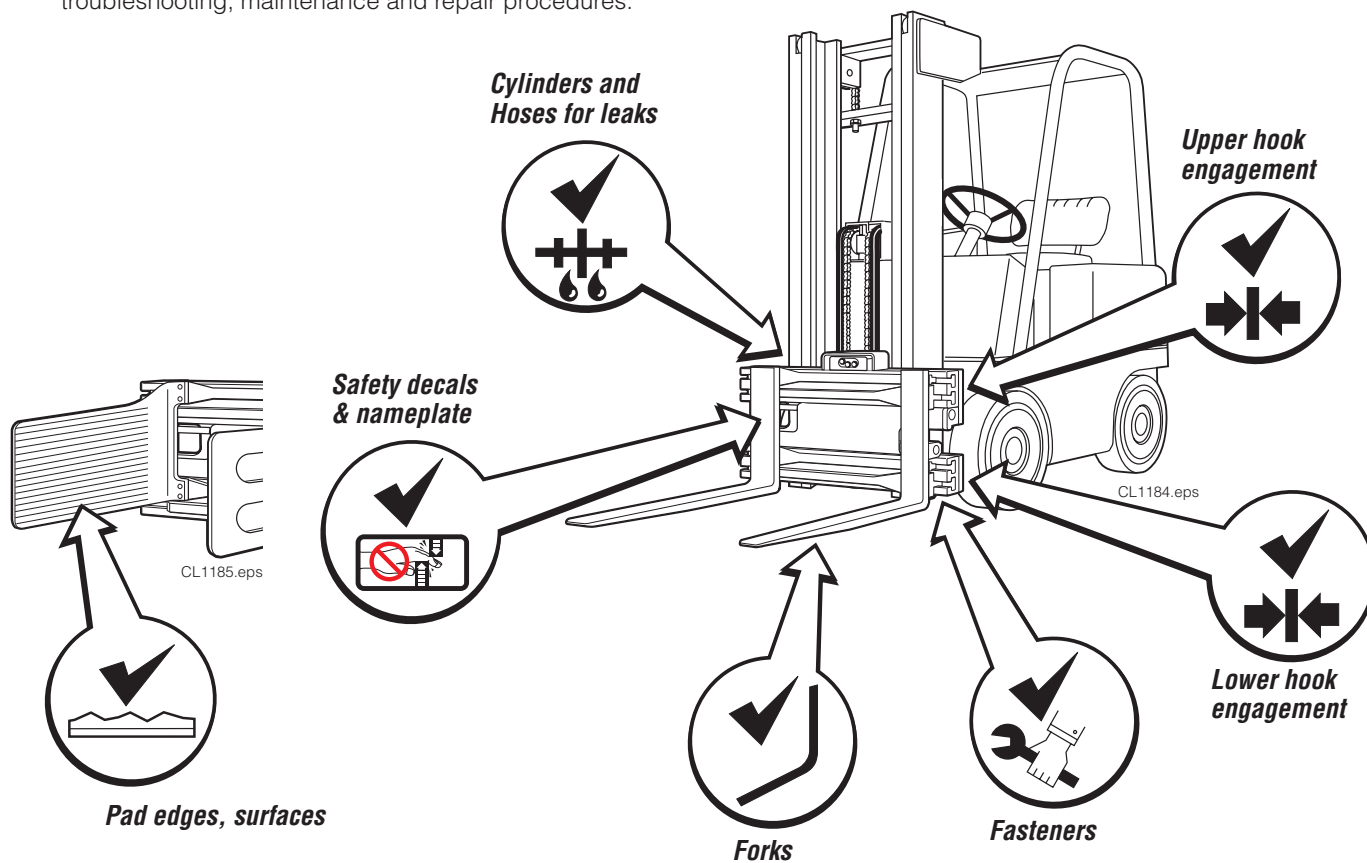
Load Center of Gravity

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Lateral Offset

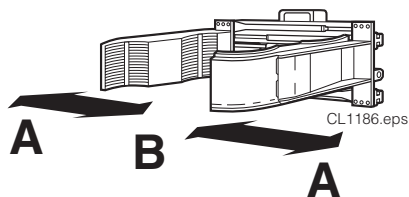
DAILY INSPECTION

Check items each day. Report problems to your supervisor. Check clamp force prior to each operational shift. Refer to attachment service manual for troubleshooting, maintenance and repair procedures.



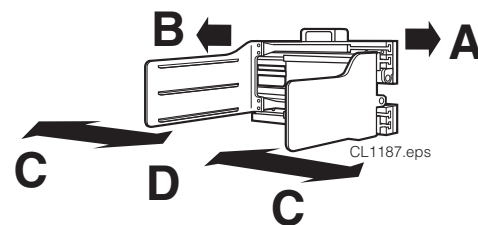
NON-SIDESHIFTING CLAMPS

- A** Release Arms
- B** Clamp Arms
- C** (not used)
- D** (not used)



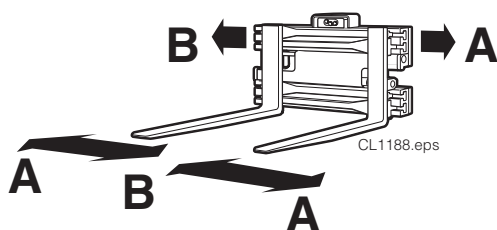
SIDESHIFTING CLAMPS

- A** Sideshift Left
- B** Sideshift Right
- C** Release Arms
- D** Clamp Arms



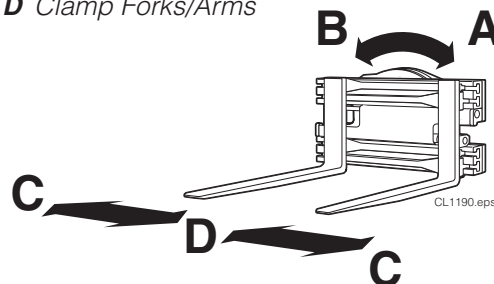
SIDESHIFTING WITH SOLENOID VALVE

- A** Sideshift Left
- A** Release Arms (Press knob button)
- B** Sideshift Right
- B** Clamp Arms (Press knob button)



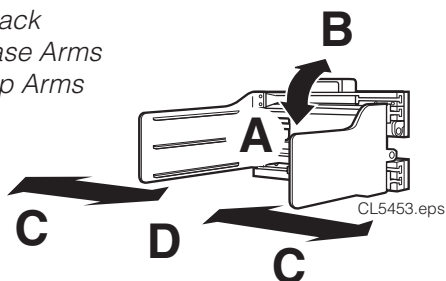
REVOLVING CLAMPS

- A** Rotate Counterclockwise (CCW)
- B** Rotate Clockwise (CW)
- C** Release Forks/Arms
- D** Clamp Forks/Arms



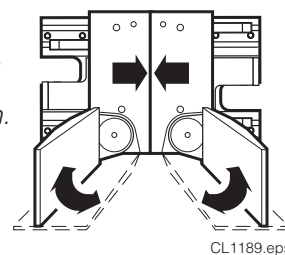
TIPPING CLAMPS

- A** Tip Forward
- B** Tip Back
- C** Release Arms
- D** Clamp Arms

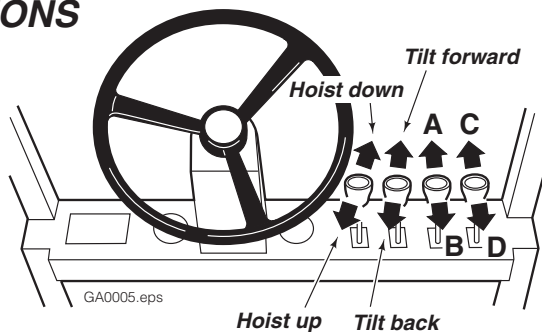


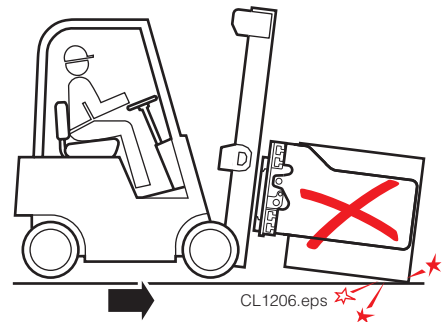
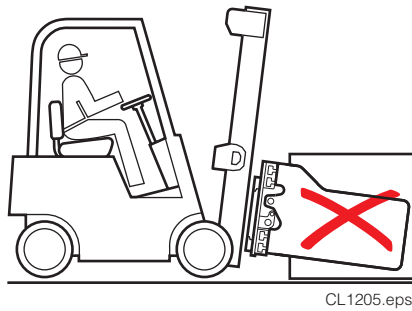
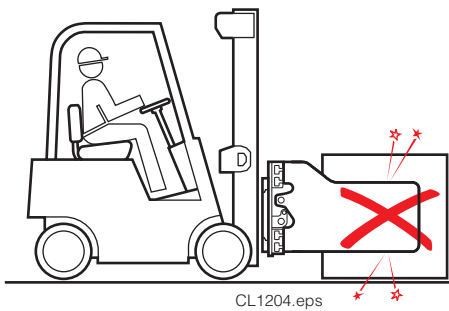
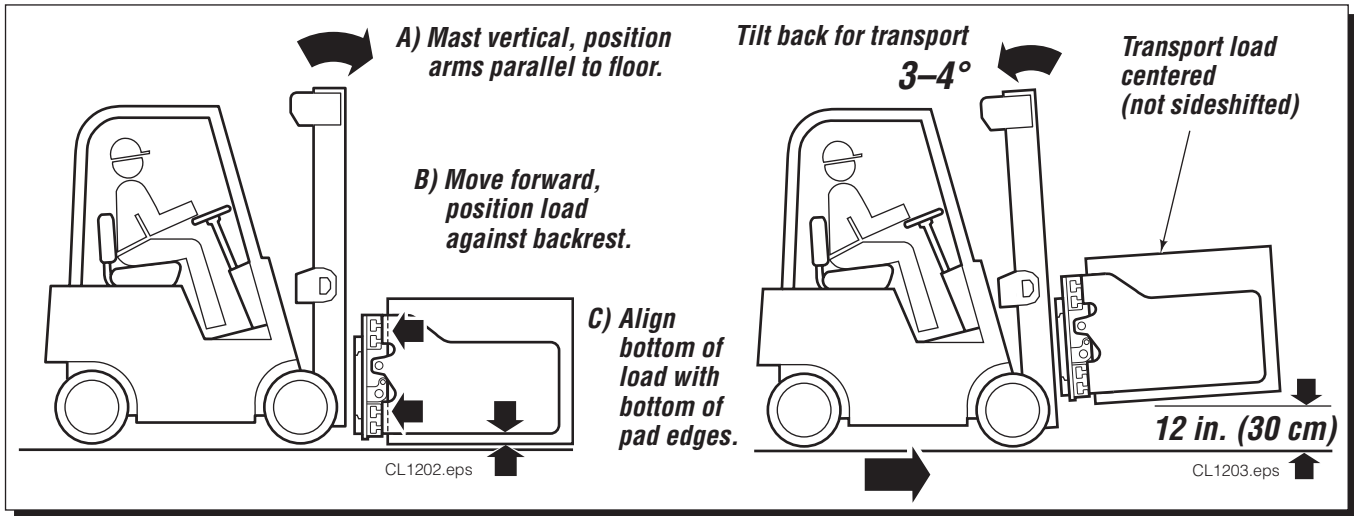
TURNAFORK™

Same as above, **close** arms to change function.

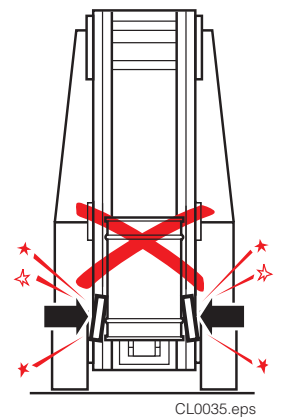
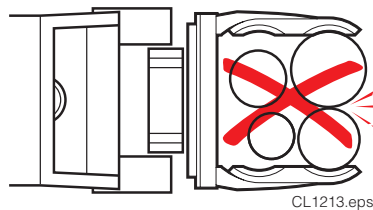
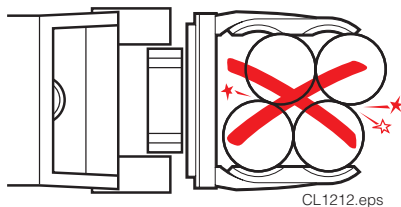
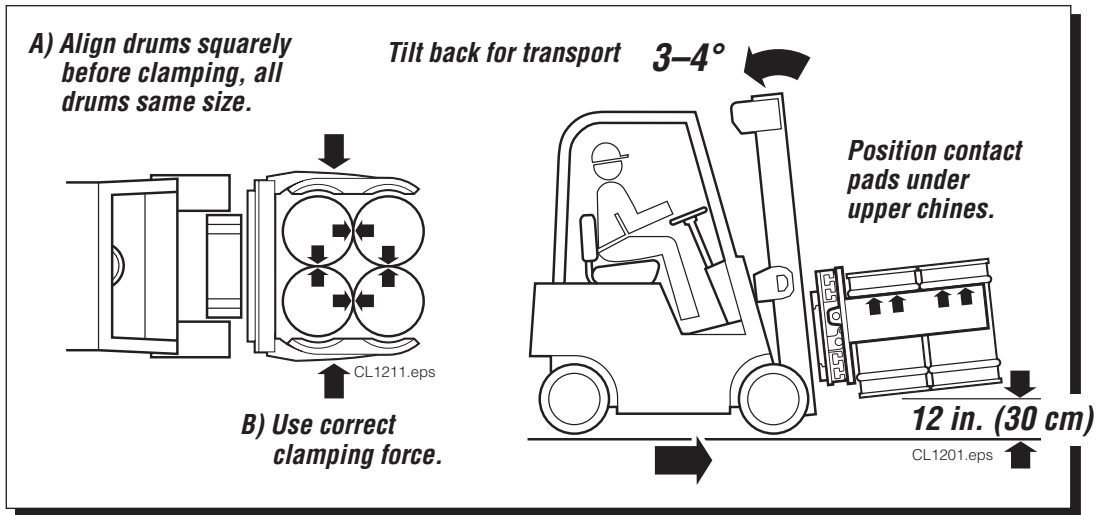


AUXILIARY VALVE FUNCTIONS

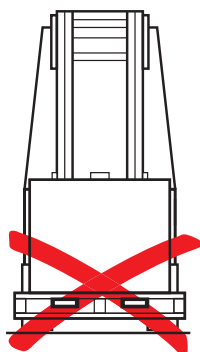
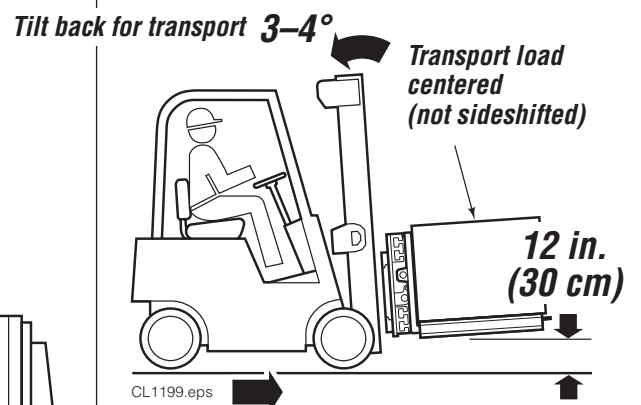
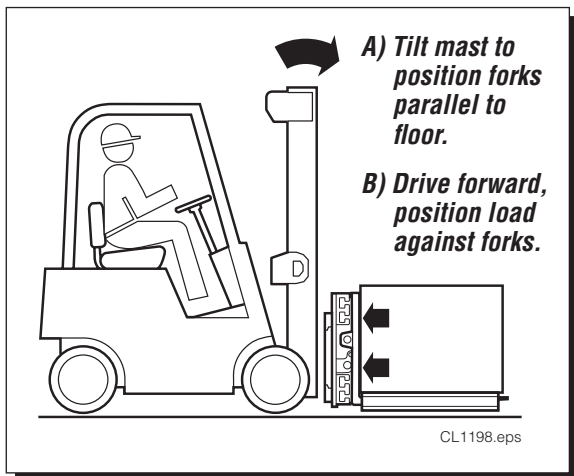




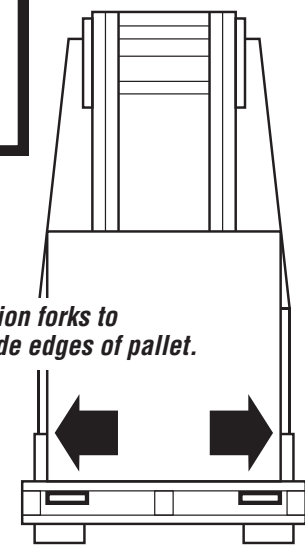
L OAD HANDLING – DRUM CLAMPS



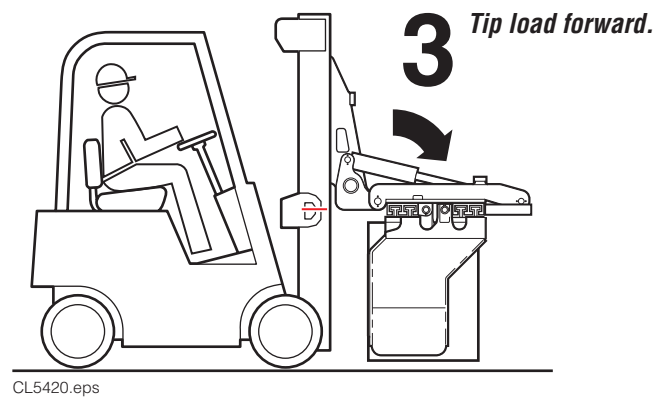
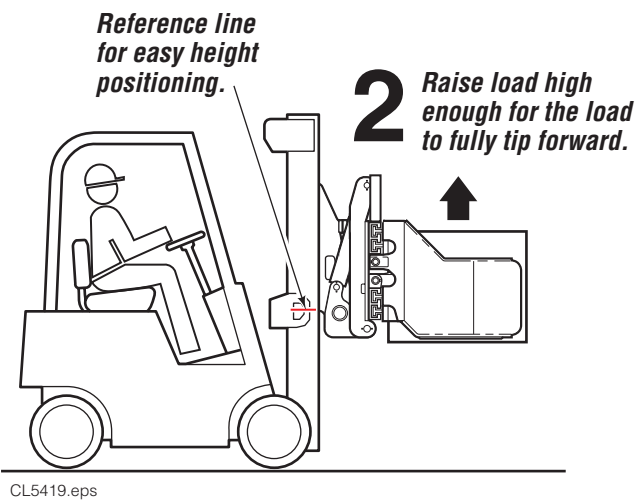
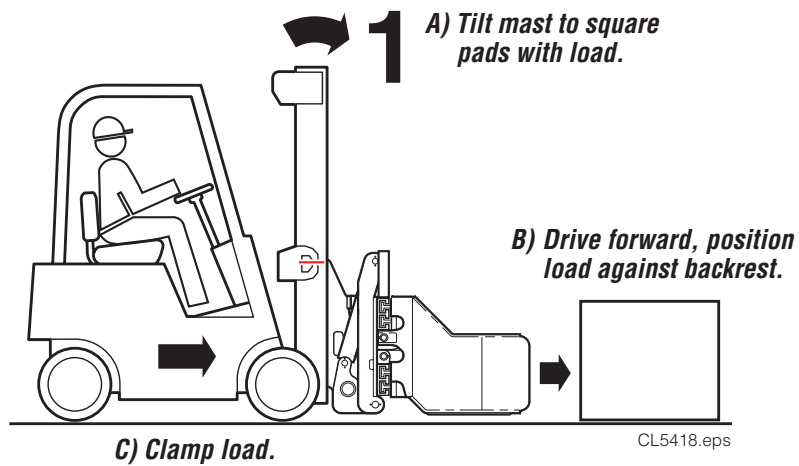
L OAD HANDLING – FORK CLAMPS

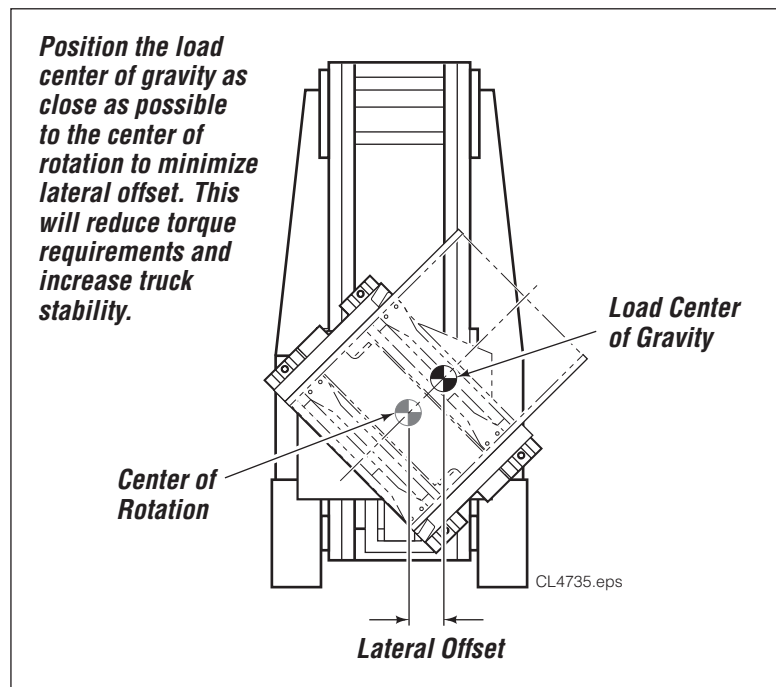
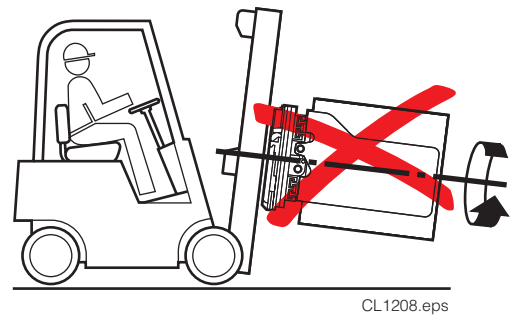
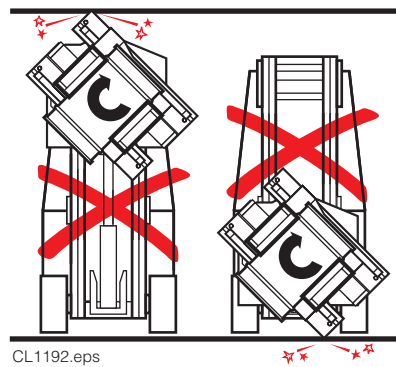
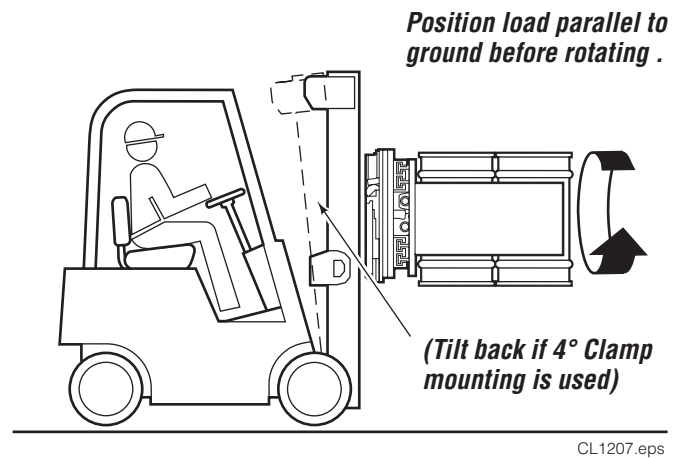
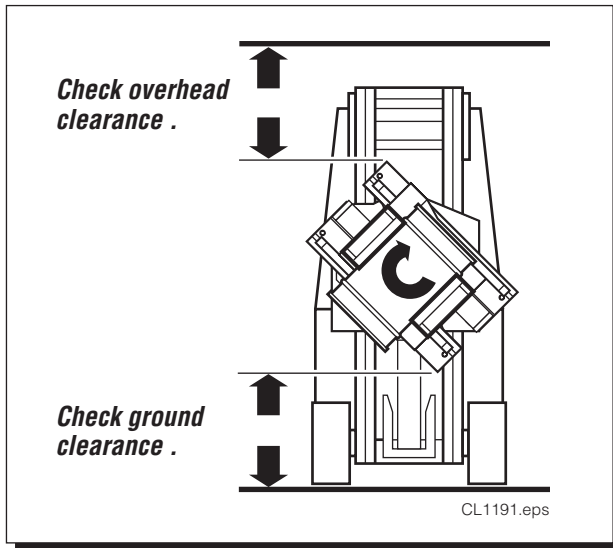


Position forks to outside edges of pallet.



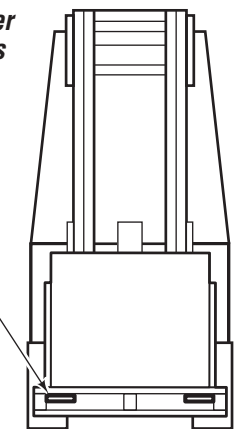
LOAD HANDLING – TIPPING CLAMPS



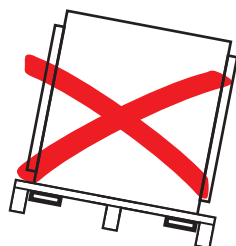


A) Make sure container or unitized load has captive fork slots before rotating.

B) Position forks to outside edge of slots.

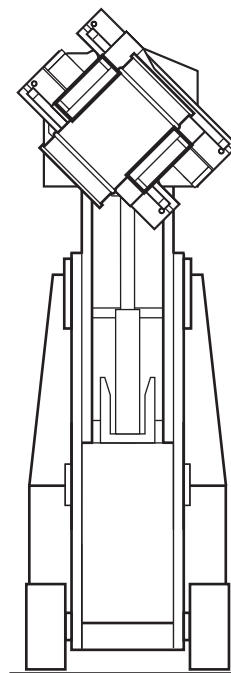


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CL0046.eps

If elevated loads must be rotated, rotate slowly.

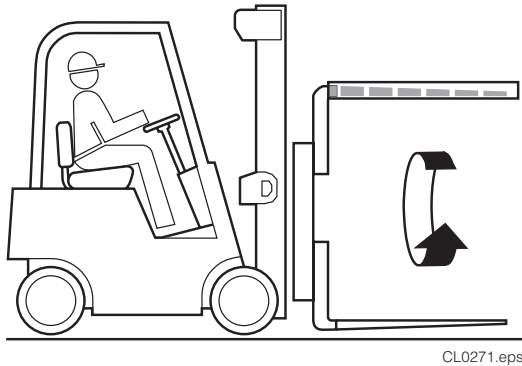


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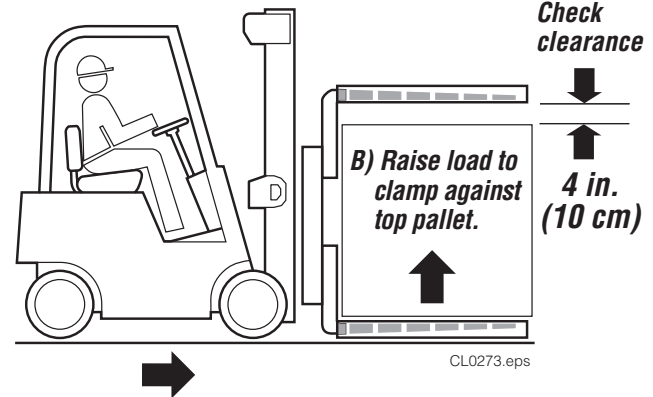
LOAD HANDLING – TURNALOAD™ CLAMP

CLAMPS WITH TOP ARM SHUTOFF

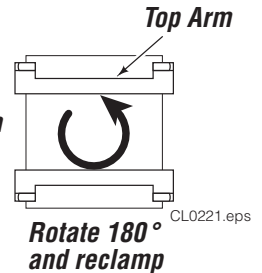
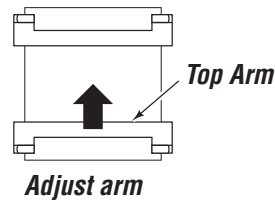
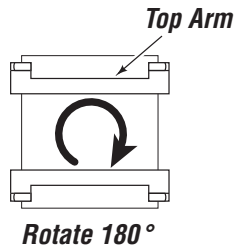
Pick up empty pallet with top arm, rotate 180° to position pallet on top.



A) Drive forward, pick up load .



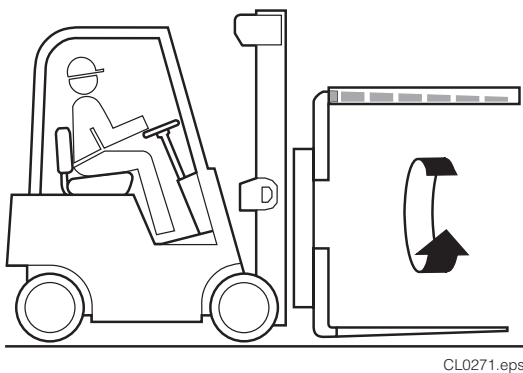
WARNING: If load is short and does not clamp firmly against top pallet, withdraw from load and reposition top arm as follows:



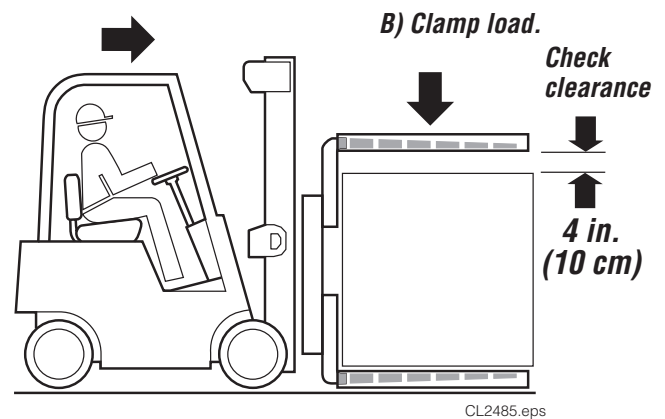
LOAD HANDLING – TURNALOAD™ CLAMP

CLAMPS WITH BOTTOM ARM SHUTOFF

Pick up empty pallet, rotate 180° to position pallet on top.

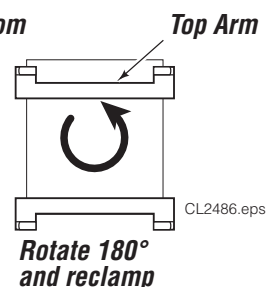
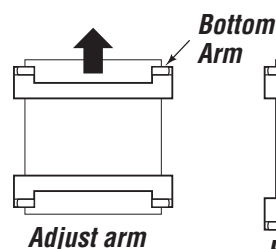
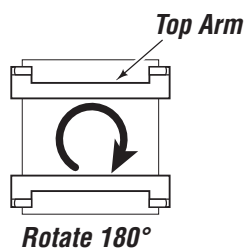


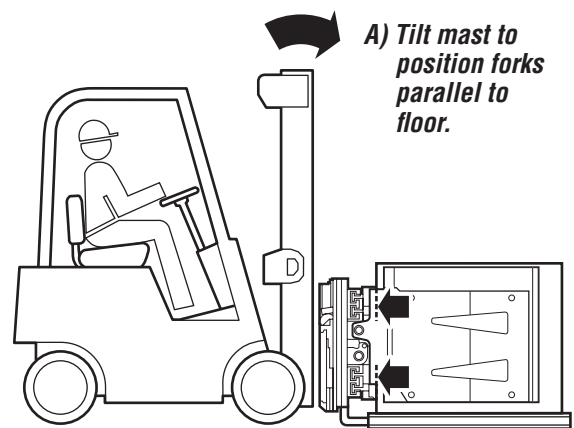
A) Drive forward, pick up load .



WARNING: If the bottom pallet cannot be picked up because the lower forks are too high, reposition the bottom arm as shown.

IMPORTANT: Positioning the bottom arm outside the width of the frame will reduce frame end damage from dragging on floor.

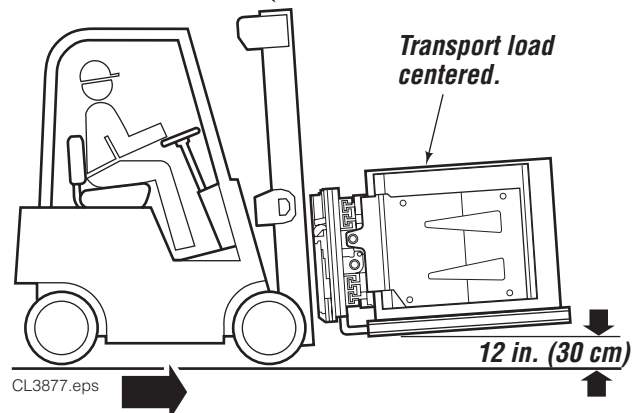




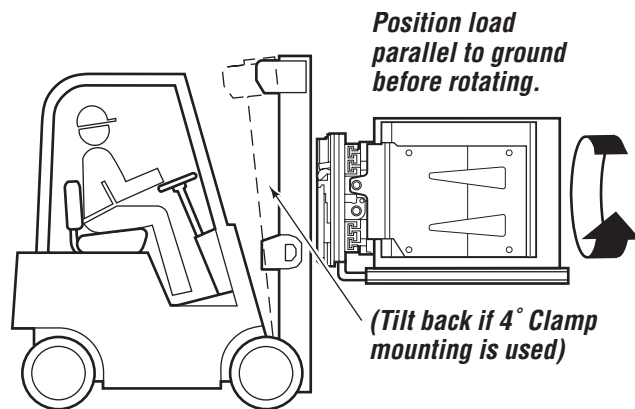
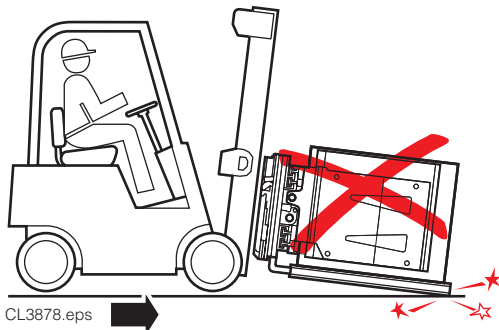
CL3876.eps

B) Drive forward, position load with arm pads.

Tilt back for transport.
3–4°



CL3877.eps

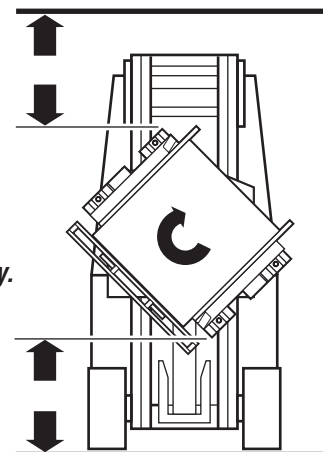


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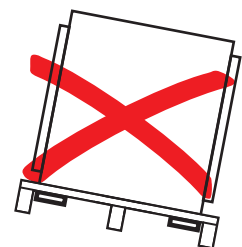
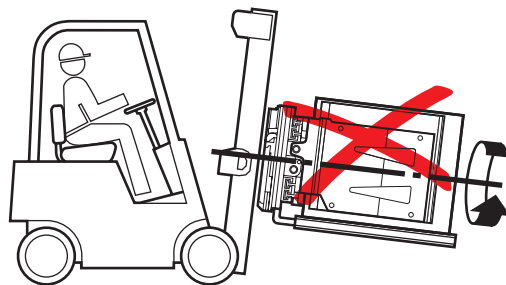
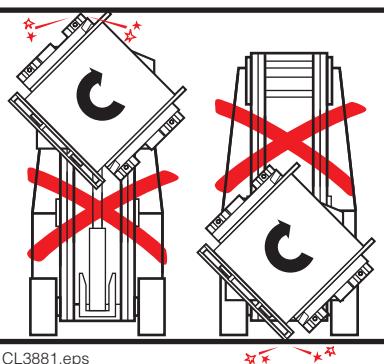
Check overhead clearance.

If elevated load must be rotated, rotate load slowly.

Check ground clearance.



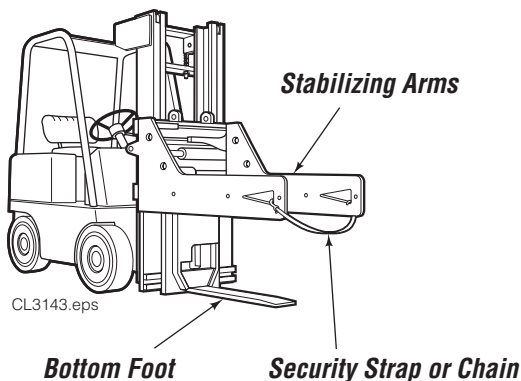
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L OAD HANDLING – MARBLE HANDLER



WARNING: Use arms to stabilize the load only. They are not designed to clamp and carry.



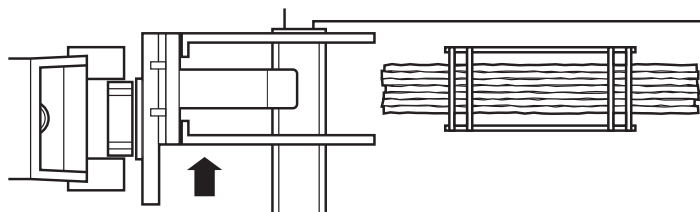
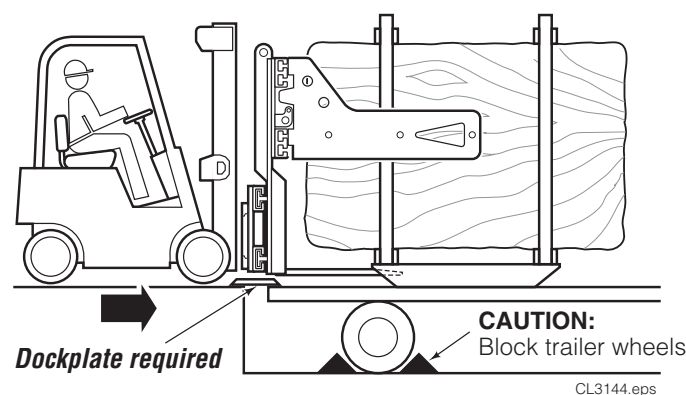
WARNING: Inspect strap or chain for wear or defects. Replace as necessary.

Specifications

Strap: Minimum break strength of 10,000 lbs.
Minimum load limit of 3,333 lbs.
Chain: Minimum 3/8 in. dia.
Minimum vertical lift capacity of 7,100 lbs.

1 Approach the load and position the foot under the bundle. Clamp stabilizing arms on the bundle.

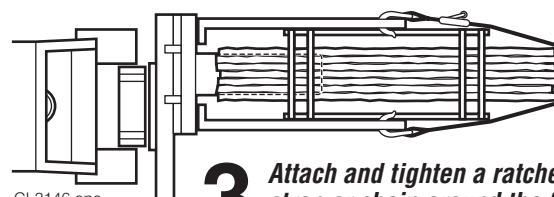
CAUTION: Inspect trailer for damage before loading or unloading.



2 Use the traversing carriage to align with bundles close to the trailer wall.



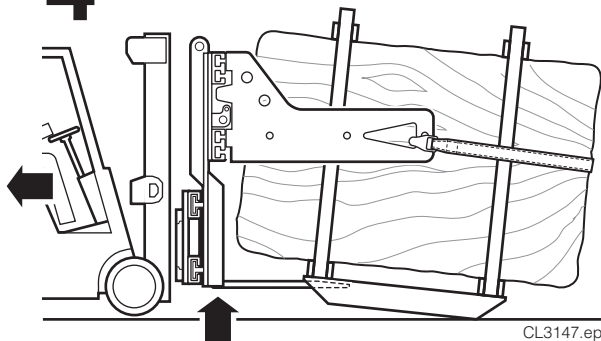
CL3145.eps



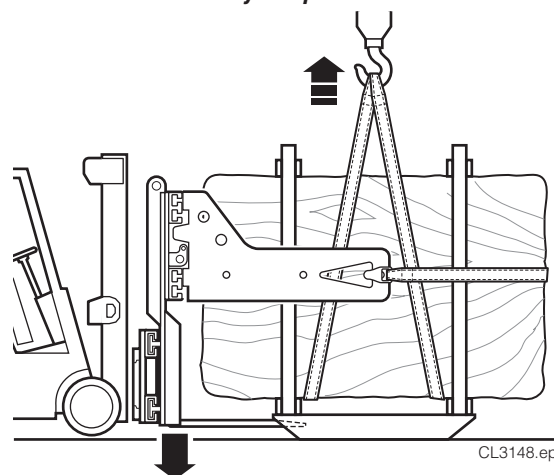
CL3146.eps

3 Attach and tighten a ratcheting strap or chain around the front of the bundle from arm to arm.

4 Lift the bundle and drag it out of the trailer.

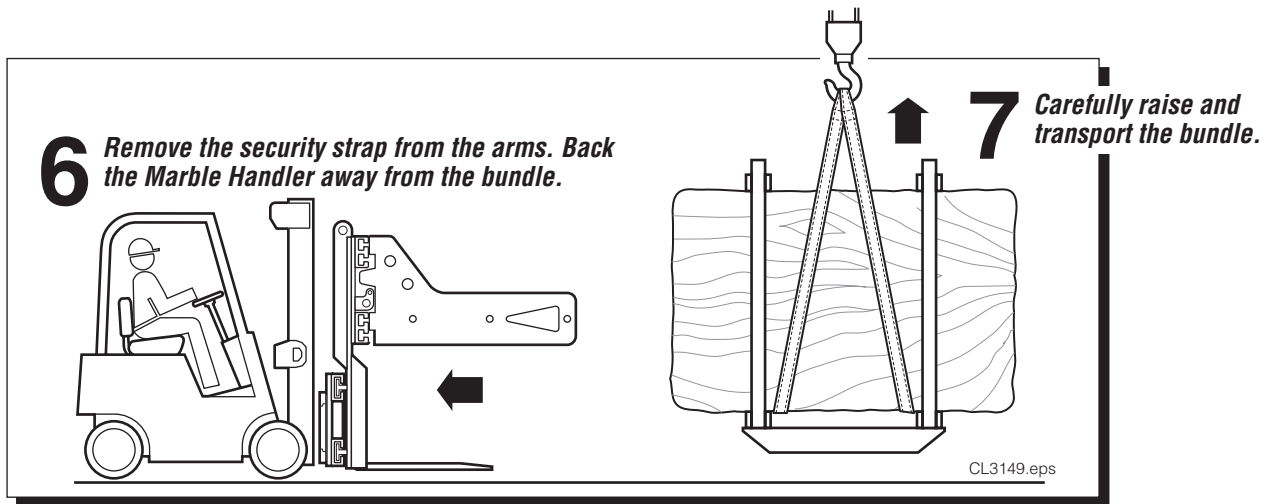


5 Lower the bundle to just rest on the ground. Secure the load with overhead crane straps. Take up the slack with the overhead crane to support the bundle. Do not lift the bundle while the security strap is fastened.



L

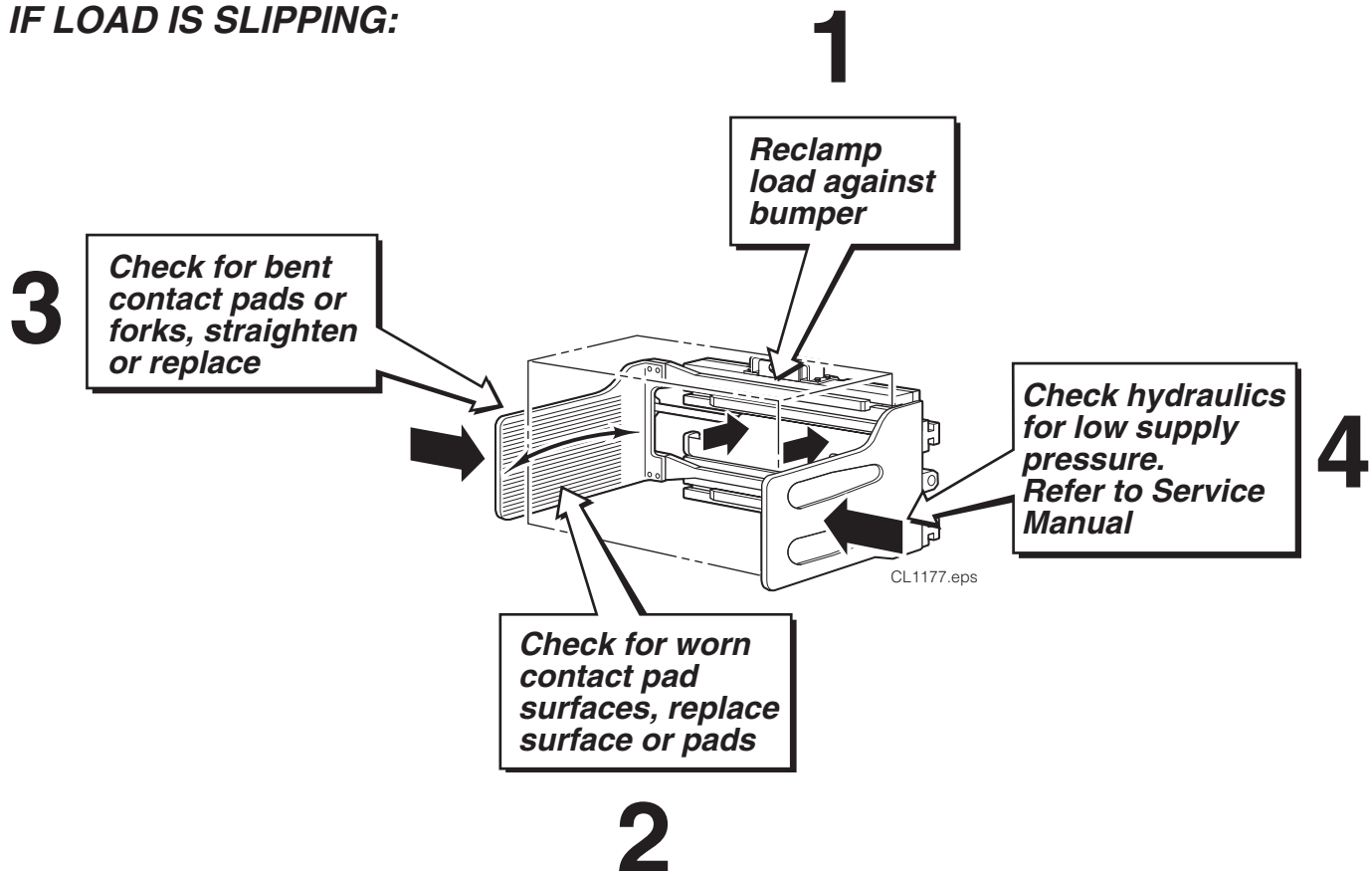
OAD HANDLING – MARBLE HANDLER



L

OAD TROUBLESHOOTING

IF LOAD IS SLIPPING:



SAFE OPERATION AND MAINTENANCE

OSHA Regulations – Industrial Trucks and Attachments



WARNING: The safe operation and maintenance of industrial trucks is regulated by Occupational Safety and Health (OSHA) regulations 1910.178 and American National Standards Institute (ANSI) Safety Standard for Powered Industrial Trucks, ANSI B56.1. When operating and maintaining industrial trucks equipped with attachments you should pay particular attention to the following sections of these regulations. You should be familiar with **all** sections of these regulations. **Ask your employer for the complete regulations.**

(a) General Requirement

- (4) Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturers prior written approval. Capacity, operation and maintenance instruction plates, tags or decals shall be changed accordingly.
- (5) If the truck is equipped with front-end attachments other than factory installed attachments, the user shall request that the truck be marked to identify the attachments and show the appropriate weight of the truck and attachment combination at maximum elevation with load laterally centered.
- (6) The user shall see that all nameplates and markings are in place and maintained in a legible condition.

(e) Safety Guards

- (2) If the type of load presents a hazard, the user shall equip fork trucks with a vertical load backrest extension in accordance with (a)(2) following.
 - (a)(2) All new powered industrial trucks acquired and used by an employer after February 15, 1972 shall meet the design and construction requirements for powered industrial trucks established in the "American National Standard for Powered Industrial Trucks, Part II, ANSI B56.1", except for vehicles intended primarily for earth moving or over-the-road hauling.

(l) Operator Training

Only trained and authorized operators shall be permitted to operate a powered industrial truck. Methods shall be devised to train operators in the safe operation of powered industrial trucks.

(m) Truck Operations

- (1) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.
- (2) No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
- (3) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.
- (4) The employer shall prohibit arms or legs from being placed between the uprights of the mast or outside the running lines of the truck.
- (5i) When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off and brakes set. Wheels shall be blocked if the truck is parked on an incline.
- (5ii) A powered industrial truck is unattended when the operator is 25 feet or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.
- (5iii) When the operator of an industrial truck is dismounted and within 25 feet of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized and the brakes set to prevent movement.

- (6) A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock or platform or freight car. Trucks shall not be used for opening or closing freight doors.

- (10) A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.

(n) Traveling

- (4) The driver shall be required to slow down and sound the horn at cross isles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- (7i) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.
- (7iii) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

(o) Loading

- (1) Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
- (2) Only loads within the rated capacity of the truck shall be handled.
- (3) The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.
- (4) Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.
- (5) A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.
- (6) Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

(p) Operation of the Truck

- (1) If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

(q) Maintenance of Industrial Trucks

- (1) Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.
- (5) All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.
- (6) Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter-weighting of fork trucks shall not be done unless approved by the truck manufacturer.
- (7) Industrial trucks shall be examined before being placed in service and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examinations shall be made at least daily. When industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

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